



Explore, review, think, talk....

What do you already know about pollination?
(5 minutes)

- Talk or think about what you already know about **pollen**.

Watch these two clips.

<https://www.bbc.co.uk/programmes/p00lx94l>



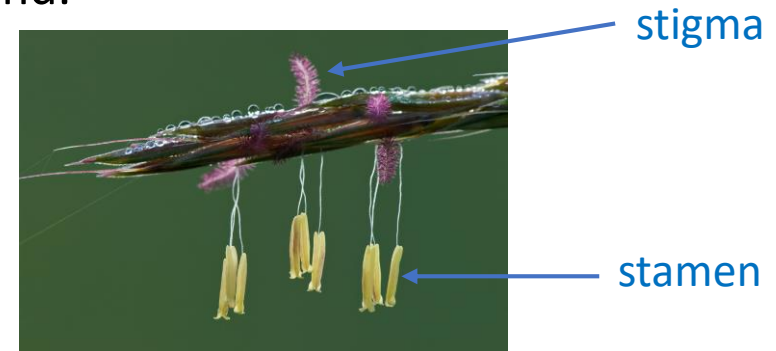
- Which type of tree has catkins?
- What happens to the pollen?

<https://www.bbc.co.uk/programmes/p006997b>



- Why do some people get hay fever?

Many flowering trees and grasses are pollinated by the wind.



- Tiny **pollen grains** on male *stamen* are blown away by the wind.
- Some of the pollen will land on the female part of another flower, called the *stigma*.
- This is called **wind pollination**.



Comparing wind and insect pollination

Compare the differences between flowers pollinated by the wind and by insects
(5-10 minutes)

Many flowers are pollinated by insects.

- Watch this clip. Talk or think about why a variety of insects act as pollinators.
<https://www.bbc.co.uk/bitesize/clips/zmrb4wx>



- Now watch this clip. Jot down any differences you notice between insect pollination and the wind pollination you saw earlier.
<https://www.bbc.co.uk/bitesize/clips/zfx76sg>

You may have noticed...

Many ***insect-pollinated*** flowers:



- have brightly coloured petals that attract insects.
- produce nectar that insects feed on.
- have a central **stigma** (sticky tip of the female part of the flower) surrounded by several **stamens** (the male part of the flower).



Many ***wind-pollinated*** flowers of grasses or trees:

- have dull colours and do not produce nectar.
- have feathery stigmas and hanging stamens.



Investigate insect-pollinated flowers

*Conduct a survey of flowers in a local environment
(page 5-6: 20-30 minutes)*

Option 1: Conduct a survey of flowers

- You can find many flowering plants in gardens during the spring and summer months.
- If you are able to go outside, conduct a survey of plants with flowers.
- Look carefully at each flower you find. What colour and shape are the petals? Can you see both a stigma and stamen?
- You may like to compare two flowers.



- *Ask an adult to help you plan and conduct the survey.*
- *Follow government guidelines on social distancing and staying safe.*
- *Look carefully but avoid touching the flowers and insects you find.*
- *You may like to take photographs.*

The key on page 6 shows some of the flowers you may find. The 'Seek' app and many websites can also help you identify flowers:

<https://www.wwf.org.uk/discover-nature-seek-app>

<https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/plants/wild-flowers/>

<https://www.countrylife.co.uk/gardens/a-simple-guide-to-the-wildflowers-of-britain-71271>



foxglove



primrose



buttercup



poppy



daisy



harebell



bluebell



cowslip



cow parsley



honeysuckle



forget me not



dandelion

I can conduct a survey of plants with flowers and compare different flowers.



Investigate insect-pollinated flowers

*Dissect a single flower
(15 minutes)*

Option 2: Dissect a single flower

- If you are unable to visit a garden or area with flowers, you may be able to buy a flower.
- There are many flowers like lilies, tulips and daffodils which can be looked at carefully to observe the male and female parts of the flower.



- Start by looking at the whole flower closely to try and identify the petals, the stigma (sticky tip of female part) and the stamen (male part).
- Take the flower apart gently, starting from the outside and working inwards.
- Lay out the different parts and label them.
- You may like to take a photograph.





Optional challenge...

Find out how some flowers attract their pollinators in unusual ways

Some plants have developed unusual ways of attracting insects.

Watch these two clips from 'Life of Plants'

1. Wild orchids and male wasps

<https://www.bbc.co.uk/programmes/p00lx7qx>

2. Dead horse arums and blow flies

<https://www.bbc.co.uk/programmes/p00lx782>



Choose one of the clips to watch again.

- *Take notes about the way pollination occurs.*
- *Write a short report or design a poster to describe how the **wild orchid** or the **dead horse arum** 'deceives' the insects to make sure their flowers are pollinated.*



Glossary of terms

- **Sexual plant reproduction** is when a plant reproduces by forming seeds or spores.
- **Pollination** is when pollen is carried from the male part of a flower to the female part of another flower, usually by insects or the wind.
- The **stamen** is the male part of the flower. It carries the pollen.
- The **stigma** is the sticky tip of the female part of the flower. Pollen grains land on and stick to the stigma during pollination.

Possible learning outcome: I can conduct a survey of flowers and compare different flowers.

“I found seven different plants with flowers: primrose, forget-me-not, bluebell, daisy, cowslip, cow parsley and a plant with small white flowers called greater stitchwort (I found the name using Seek app).”

Comparing the primrose and the forget-me-not.



“Some of the primroses had pink and dark yellow petals, others had light and dark yellow petals.”

“The forget-me-not had tiny blue petals with yellow at the centre.”

“The primrose and forget-me-not had the same shape of flower with a tiny hole in the centre of the petals. It was hard to see the stigma and stamens inside the hole.”

Comparing the greater stitchwort and the bluebell.



“The greater stitchwort had open white petals. I could see yellow stamens and a tiny stigma in the centre of the flower.”

“The bluebell had cone-shaped blue petals. I could see about seven long stamens and one stigma in the centre of the flower.”

“The greater stitchwort and the bluebell had different shaped flowers but they both had visible stigmas and stamens.”

Possible learning outcome: I can identify the different parts of a flower which are involved in pollination.

